## **CLAIMS**

## What is claimed is:

Sup/1.

A global, paperless, aircraft maintenance system comprising:

an aircraft performance means for detecting aircraft performance and control parameters:

a maintenance communications means, located on board an aircraft, for providing maintenance advice to maintenance personnel;

a sensor multiplexer receiver and transmitter means, located on board said aircraft, for:

accepting said aircraft performance and control parameters; converting said aircraft performance and control parameters, when necessary, to digital form; adding an aircraft identification and configuration label; converting said aircraft performance and control parameters and said identification and configuration label to an outgoing rf signal and broadcasting said outgoing rf signal; and receiving an incoming rf signal, converting it to a maintenance advisory, and

feeding said maintenance advisory to said maintenance communication means; an aircraft manufacturer's database means for providing aircraft data and

a central station means, located on the ground, for receiving said outgoing rf signal and converting it to said aircraft performance and control parameters and said aircraft identification and configuration label, and broadcasting said incoming rf signal;

a processing means, connected to said central station means, for:

maintenance information;

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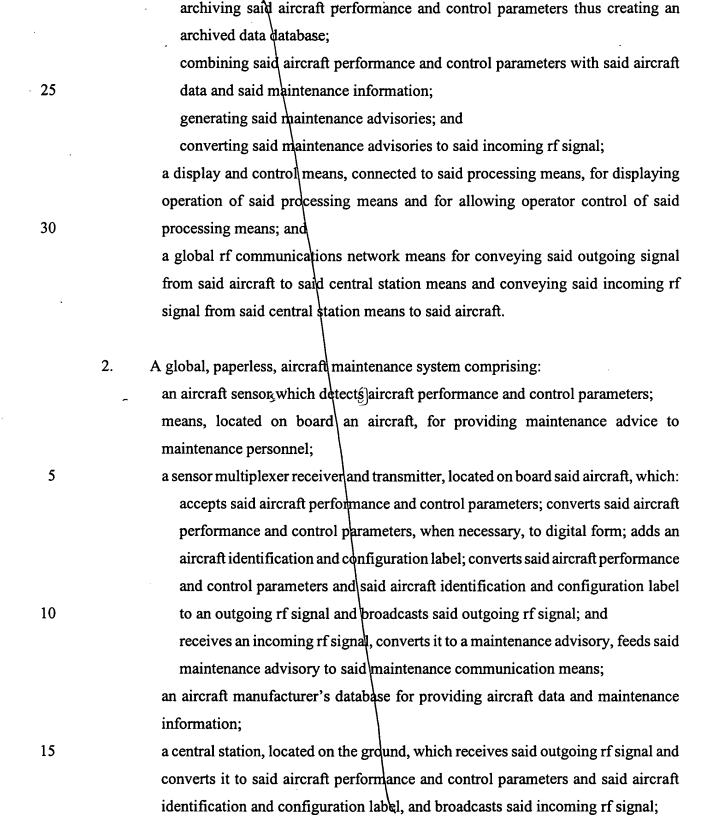
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	a processing means, connected to said central station means, for:
	archiving said aircraft performance and control parameters thus creating an
20	archived data database;
	combining said aircraft performance and control parameters with the archived
	data, and said aircraft data and maintenance information;
	generating sald and maintenance advisories; and
	converting said and maintenance advisories to said incoming rf signal;
25	a display and control subsystem, connected to said processing means, and
	a global rf communications network which conveys said outgoing signal from said
	aircraft to said central station and conveys said incoming rf signal from said central
	station to said aircraft.
	3. A method of providing global, paperless, aircraft maintenance advisories comprising
	the steps of:
	mounting a performance sensor in an aircraft;
	mounting a control sensor in said aircraft;
5	mounting a means in said aircraft, for providing maintenance advice to
	maintenance personnel;
	mounting a sensor multiplexer receiver and transmitter system, in said aircraft;
	providing communications access to an aircraft manufacturer's database;
	providing a central ground based station;
10	providing a processing means within said central ground based station;
	providing a display and control subsystem, connected to said processing means;
	providing a global, rf communications network;
	accepting signals from said air raft performance and control sensors into said
	sensor multiplexer receiver and transmitter;
15	converting, in said sensor multiplexer receiver and transmitter, said signal from
	said aircraft performance and control sensors, when necessary, to digital form;
	adding an aircraft identification and configuration label;

converting said signals, and aircraft identification and configuration label, in said sensor multiplexer receiver and transmitter, to an outgoing rf signal; 20 transmitting said outgoing rf signal from said sensor multiplexer receiver and transmitter to said dentral ground base station via said global rf communications network; receiving said outgoing rf signal at said central ground based station; converting said outgoing rf signal at said ground based central station to said 25 signals plus said aircraft identification and configuration label; performing within said processing means the steps of: archiving said signals thus creating an archived data database; combining said signals with the archived data, and information from said aircraft manufacturer's database: 30 generating maintenance advisories; and converting said maintenance advisories to an incoming rf signal; sending said incoming rf signal, via said global communications network, from said central ground based station to said sensor multiplexer receiver and transmitter; 35 converting said incoming rf\signal, at said sensor multiplexer receiver and transmitter, to said maintenance advisories; and feeding said maintenance advisory from said sensor multiplexer receiver and transmitter to said maintenance communication means.